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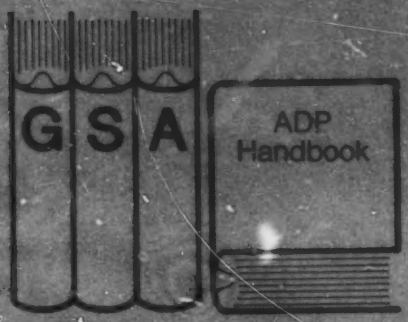
IRM P 2170.1
February 29, 1984



ORIGINAL

Quality Assurance

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General Services Administration
Office of Information Resources Management
Office of GSA Information Systems

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QUALITY ASSURANCE

GENERAL TABLE OF CONTENTS

CHAPTER 1. INTRODUCTION

CHAPTER 2. SYSTEM REQUIREMENTS REVIEW

CHAPTER 3. DESIGN PROPOSAL REVIEW

CHAPTER 4. SYSTEM ACCEPTANCE REVIEW

CHAPTER 5. POSTIMPLEMENTATION REVIEWS

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CHAPTER 1. INTRODUCTION

PART 1. GENERAL

Paragraph Titles	Paragraph Numbers
Purpose	1
Objectives	2
Background	3
Applicability	4
Organizational responsibilities	5
Reviews	6
Standards	7
ADP management references	8
Document retention	9
Reserved	10 thru 12

Figure 1-1. Quality assurance reviews

Figure 1-2. GSA ADP management reference

PART 2. QUALITY ASSURANCE REVIEWS

System requirements review	13
Design proposal review	14
System acceptance review	15
Postimplementation reviews	16
Systems management requirements	17
Reserved	18 thru 20

Figure 1-3. ADP systems management requirements

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CHAPTER 1. INTRODUCTION

PART 1. GENERAL

1. Purpose. The ADP quality assurance program uses quality assurance reviews (see fig. 1-1) to ensure that GSA ADP systems are developed and maintained under ADP systems procedures and established ADP policy, standards, and procedures.

2. Objectives. The ADP quality assurance program:

a. Verifies that ADP systems management procedures are followed;

b. Ensures that administrative and technical evaluations and decisions are made;

c. Evaluates compliance with GSA ADP standards and procedures; and

d. Reviews documentation for accuracy and completeness.

3. Background. Organizational functions and responsibilities for ADP are redefined in the GSA Organizational Manual, (OHR P 5440.1). ADP personnel can now give support to services and staff offices with substantial ADP requirements. Decentralized ADP resources are to be managed under ADP policy, standards, and procedures. The ADP quality assurance program ensures efficient, uniform application of GSA's ADP resources.

4. Applicability. All GSA activities must follow ADP management procedures and the quality assurance program. The activities are shown in the GSA 5-Year Strategic Plan for Automated Information, and resources are allocated according to the plan. ADP activities are referenced in the plan by activity number. In meeting quality assurance requirements, the effort of investigating and documenting should be at a level commensurate with the size, complexity, and importance of the system. The ADP management procedures and quality assurance reviews apply to both in-house and contract work.

5. Organizational responsibilities.

a. Services and staff offices and regional offices. The Office of GSA Information Systems provides ADP support to Central Office system owners without full-time ADP staffs. Regional offices are responsible for their regionally unique systems. Services and staff offices and regional offices must:

(1) Comply with the systems management procedures and the quality assurance program;

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(2) Conduct quality assurance reviews; and

(3) Take corrective action.

b. Office of GSA Information Systems.

(1) Prepare guidelines for conducting reviews and overseeing the quality assurance program;

(2) Review the quality assurance evaluations and make recommendations;

(3) Conduct internal ADP audits; and

(4) Establish ADP standards and procedures.

c. Assistant Administrator for Information Resources Management.

(1) Serve as senior manager for the ADP program; and

(2) Resolve quality assurance questions.

6. Reviews. Four quality assurance reviews are conducted during the life of an ADP system. They are:

a. System requirements review;

b. Design proposal review;

c. System acceptance review; and the

d. Postimplementation reviews.

7. Standards. The Systems Management handbook, IRM P 2140.1, and the Quality Assurance handbook, IRM P 2170.1, will be used instead of the Federal Information Processing Standards (FIPS PUB) Guidelines, numbers 38 and 64. With this exception, the Federal Information Processing Standards Publications must be followed as the GSA guidelines for ADP. This includes both the publications labeled "standards" and those labeled "guidelines". They are used for all applications unless a substitute is issued, or the Office of GSA Information Systems issues a waiver. Audits should be made to ensure compliance.

8. ADP management references. The primary reference for the GSA ADP management program is the ADP Management Handbook, IRM P 5400.1. It is intended for senior management and as a reference to the overall ADP management program. For each chapter in IRM P 5400.1, there are

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procedures in corresponding IRM 2100 series documents. The procedural documents are the guides for executing the ADP program, and are intended for project management and execution. A cross-reference between the IRM P 5400.1 document and the IRM 2100 series procedures is shown in fig. 1-2.

9. Document retention. The system owner retains the ADP quality assurance review documents for the life of the system. If the system is terminated and replaced by another that still performs some of the functions, the owner can evaluate which documents to keep.

10 thru 12. Reserved.

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Quality Assurance Reviews

- System Requirements
- Design Proposal
- System Acceptance
- Postimplementation

Figure 1-1. Quality Assurance Reviews

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GSA ADP Management Reference

ADP Management Handbook IRM P 5400.1		Corresponding ADP Management Procedures IRM 2100 Series
Chapter 1	Introduction	2100.
Chapter 2	Acquisition and Contract Administration	2120.
Chapter 3	Management Planning	2130.
Chapter 4	Systems Management	2140.
Chapter 5	Inventory Management	2150.
Chapter 6	Computing Resources and Data Communications	2160.
Chapter 7	Quality Assurance	2170.
Chapter 8	Data Base Management	2180.
Chapter 9	Cost Accounting	2190.

Figure 1-2. GSA ADP Management Reference

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PART 2. QUALITY ASSURANCE REVIEWS

13. System requirements review.

a. Purpose. The review ensures that system needs have been defined enough to develop design proposals.

b. Scheduling. The review must be done before design proposals can be solicited or system specifications developed. The review may be held when all functional requirements are identified and the system requirements document has been prepared.

c. Review description. The review addresses the following: performance objectives; existing methods and procedures; inputs/outputs; processes; data; failure contingencies; security; constraints; documentation; and management.

d. Review procedure. Follow IRM P 2170.1, chapter 2, in reviewing the system requirements.

14. Design proposal review.

a. Purpose. The review ensures that the ADP design is feasible, efficient, and satisfies the requirements.

b. Scheduling. The review must be done before acquisition or development begins. A development contract can be issued, or in-house activity begun, only after the design proposal is approved.

c. Review description. The review addresses the following: concept evaluation; alternate concepts; system architecture; facility design; cost analysis; project plan; implementation and conversion plans; contract administration; documentation; and management.

d. Review procedure. Follow IRM P 2170.1, chapter 3, in reviewing the design proposal.

15. System acceptance review.

a. Purpose. The review ensures that required activities have been successfully completed before the system becomes operational.

b. Scheduling. Implementation and conversion plans should allow adequate time to complete the review.

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c. Review description. The review addresses the following: hardware; system software; data communications; facility preparation; system test; user training; operation training; configuration management; performance monitoring; documentation; and conversion and implementation.

d. Review procedure. Follow IRM P 2170.1, chapter 4, in reviewing the system acceptance.

16. Postimplementation reviews.

a. Purpose. Postimplementation reviews evaluate the systems effectiveness and need for change.

b. Review frequency.

(1) Do a postimplementation review within 12 to 18 months after installing the system to ensure that it is functioning as designed. Conduct further reviews at 50 percent and 80 percent of the system's life, but at least every 5 years. Develop a postimplementation review schedule before installing the system.

(2) Owners must establish the system life and a postimplementation review schedule for existing systems that do not have them.

(3) In addition to the scheduled reviews, the Office of GSA Information Systems may require further reviews.

c. Review description. Address the following: mission; system description; functional requirements; design specifications; change control; operation; security and risk analyses; inputs; outputs; processing; documentation; and management.

d. Review procedure. Follow IRM P 2170.1, chapter 5, when doing a postimplementation review.

17. Systems management requirements. The ADP system life cycle phases, quality assurance reviews, and documentation requirements relate as follows (see fig. 1-3):

a. Phase I Planning. During this phase, estimate preliminary requirements and resources to define the system and develop information that can be incorporated in the GSA 5-Year Strategic Plan for Automated Information. Retain the background documentation for auditing and substantiating. Review the planning under the GSA 5-Year Strategic Plan for Automated Information review requirements.

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b. Phase II Analysis. Review the system requirements after system needs are analyzed. Do not begin the design phase until the requirement review is approved. Develop the system requirements document during this phase.

c. Phase III Design. Review the design proposal after a specific method of meeting requirements is proposed. The project proceeds to contracted or in-house acquisition and development upon approval of the Design Proposal Review. Develop the (1) Design Proposal; (2) Risk Analysis, and (3) Project Plan documents during this phase.

d. Phase IV Acquisition and development. Review the system for acceptance when it is ready for operation, but it may not begin operation until the review is approved. The (1) Data Processing Manual; (2) User Manual; (3) Operation Manual; and (4) System Acceptance Report must be completed before the system becomes operational.

e. Phase V Operation and maintenance. Do postimplementation reviews during the system's operating life. These provide information about the need to change or to eliminate the system. Systems management documents and operational reports offer the feedback needed for planning. The documentation is ongoing and consists of logs and reports that are used for the postimplementation reviews and planning.

18 thru 20. Reserved.

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ADP Systems Management Requirements

PHASE I	PHASE II	PHASE III	PHASE IV	Phase V
Planning	Analysis	Design	Acquisition& Development	Operation& Maintenance
Life Cycle Documentation Requirements				
• 5-Year Strategic Plan for Automated Information	• System Requirements	• Design Proposal • Risk Analysis • Project Plan	• Data Processing Manual • User Manual • Operation Manual • System Acceptance Report	On-going See Note
Quality Assurance Review Requirements				
• Reviews Per IRM 2100.3	• System Requirements Review	• Design Proposal Review	• System Acceptance Review	• Postimplementation Reviews

Note: Logs and records kept in this phase are used for Postimplementation Reviews and become the basis for input to Phase I in the event of major modification

Figure 1-3. ADP Systems Management Requirements

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CHAPTER 2. SYSTEM REQUIREMENTS REVIEW

PART 1. GENERAL

Paragraph Titles	Paragraph Numbers
Purpose	1
Objectives	2
Scheduling	3
Applicability	4
Review team	5
Responsibilities	6
Corrective action	7
Reserved	8 thru 10

PART 2. PLANNING THE REVIEW

Initiation	11
System identification	12
Scope	13
Tasks	14
Methods	15
Review plan	16
Reserved	17 and 18

PART 3. CONDUCTING THE REVIEW

Performance objectives	19
Existing methods and procedures	20
Inputs/outputs	21
Processes	22
Data	23
Failure contingencies	24
Security	25
Constraints	26
Documentation	27
Management	28
Conclusions	29
Recommendations	30
Reserved	31 thru 33

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PART 4. REPORTING

Paragraph Titles	Paragraph Numbers
Requirements	34
Review plan	35
System requirements review	36
Reserved	37

Figure 2-1. System requirements review plan cover sheet

Figure 2-2. System requirements review cover sheet

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CHAPTER 2. SYSTEM REQUIREMENTS REVIEW

PART 1. GENERAL

1. Purpose. This review ensures that system needs have been defined enough to develop design proposals.

2. Objectives. The review verifies that the following have been done:

   a. Performance objectives defined;

   b. Needs compared with existing capabilities; and

   c. Functional requirements developed.

3. Scheduling. Complete the review before design proposals are solicited or system specifications developed. The review may be conducted when functional requirements are identified and the system requirements document prepared.

4. Applicability. All GSA ADP systems must have a system requirements review. The systems are identified in the GSA 5-Year Strategic Plan for Automated Information. In meeting the quality assurance requirements, use a level of effort and detail in investigating and documenting the system that is commensurate with its size, complexity, and importance. The systems management procedures and quality assurance reviews apply whether the work is performed in-house or contracted out. Should there be an exception or modification, the system owner must request a waiver from the Office of GSA Information Systems. The request must be justified in writing.

5. Review team. The review team should be made up primarily of individuals who did not participate in preparing the requirements. The team should consist of:

   a. A project leader, appointed by the organization owning the system, but not involved with the system to be reviewed;

   b. A systems assurance analyst from the Office of GSA Information Systems (this appointment may be redelegated case-by-case but requires written justification); and

   c. System experts, users, and contract personnel (may be used for furnishing documents, materials, explanations, and advice).

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The project leader should be the first team member appointed and assembles the rest of the team. Depending upon resource needs, the project manager may conduct all the planning activities or may request additional team members.

6. Responsibilities. The system owner is responsible for the system requirements review. If the owner does not have an ADP staff, the Office of GSA Information Systems, Central Office Support Division (KGC), ensures that the review is conducted. Other organizations and/or contractors may be asked to participate. The review is initiated according to a predetermined schedule, but the Office of GSA Information Systems ensures that the review is conducted under established standards and procedures. Responsibilities are:

a. Review team.

(1) Project leader. The project leader ensures that all areas of the review are addressed; that information is correct, conclusions logical, and recommendations feasible; and that the required documentation is prepared and accepted. The duties are the same whether the review is done in-house or by contract.

(2) Systems assurance analyst. The analyst ensures that the review team is not involved in any phase of the system and reviews the processes, conclusions, and recommendations. This may be done when the review is completed, or may require monitoring or participating in the review, depending upon its complexity. The analyst may request additional processes or details.

(3) Team members. The team plans and does the review, and submits the data, conclusions, and recommendations to the project leader in the prescribed format. The review must be acceptable to the project leader and to the systems assurance analyst.

b. System owner (KGC for owners without ADP staffs).

(1) Establishes ADP system life cycle and system requirements review schedule;

(2) Initiates system requirements review;

(3) Appoints the review team project leader and review team (or awards a contract for support in lieu of the team);

(4) Funds the review;

(5) Conducts the review;

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(6) Documents and submits the review to the Office of GSA Information Systems; and

(7) Implements corrective action.

c. Office of GSA Information Systems.

(1) Develops procedures for reviewing the system requirements;

(2) Assigns a systems assurance analyst to the review team to ensure that the review requirements are properly interpreted and executed;

(3) Furnishes, or requests that the system owner furnish further details if data is inconclusive; and

(4) Approves the system requirements review, or prepares an exception report.

d. Heads of Services and Staff Offices (HSSO), Regional Administrators, and the Assistant Administrator for Information Resources Management.

(1) Reconciles review differences; and

(2) Resolves problems and inconsistencies relating to the ADP quality assurance program.

7. Corrective action. The system owner implements the corrective action, and the Office of Information Resources Management oversees it. If corrections are needed, the owner must submit an action plan, within 60 days, for effecting the recommendations of the review team. Exceptions taken to the team's recommendations or to those of the systems assurance analyst must be explained. If disagreements are not resolved at this level, the Assistant Administrator for Information Resources Management resolves them.

8 thru 10. Reserved.

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PART 2. PLANNING THE REVIEW

11. Initiation. The system owner appoints a project leader when the review is scheduled. The project leader carries out the review and documents it.

12. System identification. The system is listed in the 5-Year Strategic Plan for Automated Information. Ownership will be shown for hardware, software, data, and shared resources if there is more than one owner.

13. Scope. Identify any parts of the system not reviewed, such as regional offices, interfaces, manual processes, etc. State the planned depth of the review and limiting factors, such as cost, system life, and system importance.

14. Tasks. Using the requirements of part 3, prepare a list of tasks; include a milestone (measurable or deliverable product) for each task or set of tasks. The tasks should address each review requirement listed in part 3 or justify omitting it.

15. Methods. Decide on an approach for each task and explain the choice. Methods used may include, but are not limited to:

a. Questionnaires;

b. Interviews; and

c. Documentation reviews.

Review requirements must be decided on so that these documents can be included in the methods statement: the questionnaire and distribution list; the interview questions and the list of persons to be interviewed; and the list of documents to be reviewed. Provisions for revising and following through on additional needs must also be included.

16. Review plan. Develop a plan for conducting the review. The plan will include:

a. Tasks. What must be done.

b. Milestones. Measurable results for each task.

c. Purpose. Reason for each task.

d. Methods. How each task is to be accomplished.

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e. Responsibility, contacts, and participation. Who (individual and organization) will do what.

f. Beginning and ending dates. Projected start and completion dates.

g. Materials. Studies, reports, analyses, or other materials needed for each task.

h. Resources. Personnel, budget and other resources.

17 and 18. Reserved.

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PART 3. CONDUCTING THE REVIEW

The paragraphs in this section represent tasks that will be included in the review plan. Each task must be documented with a summary of findings that support the conclusions and recommendations.

19. Performance objectives. Verify that the reasons for the system are clearly thoughtout and documented. This requires a list of functions and tasks that will be accomplished, and related functions that are not included. If experimenting or prototyping is requested, ensure that it is justified and potential benefits explained.

20. Existing methods and procedures. Ensure that current functions are identified, and that any change in the process for performing them is explained. Deficient functions are to be listed. Document organizational and personnel responsibilities; the number and types of personnel used; the type, usage rate, and purpose of equipment being used; the volume, frequency, and sources of inputs and outputs; processing procedures; deficiencies; and cost of operating the system. Estimate the percentage of requirements being met by existing processes.

21. Inputs/outputs. Verify that all input and output locations, media, volumes, types and responsibilities for them are identified, and that formats, ranges, accuracy, and editing criteria are prepared. Examples of hard copy reports (routine, situational, and exception), as well as graphic or display reports must be available.

22. Processes. Review the processes described. They should include formulas, manipulations, transfers, chaining, and retention requirements. Identify each element as to source, name, use, and retention. Identify processed elements as to further use, reporting, and retention. Interfaces, hardware, software, and requirements should be analyzed. Include professional practices, such as using audit trails, controls, history files, etc.

23. Data. Review the elements list and characteristics to ensure that individual and composite data elements are described by name, coded representations (if known), and use. Data volume, manipulation, and growth estimates must be given.

24. Failure and contingencies. Verify that requirements have been spelled out for backup, fallback, recovery, and restart. Explain the consequences of lost time, data, and processing.

25. Security. Verify that security requirements have been explained.

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26. Constraints. Ensure that constraints affecting the requirements design have been presented. These may be the interfaces with other hardware and software systems, geographical location and distribution, planned policy or organizational changes, funding, time, administrative or legislative mandates, and performance requirements.

27. Documentation. All of the review topics should be addressed in the system requirements document. Verify that they are addressed per IRM P 2140.1 and that the document is complete enough for the system to be designed, or for a design proposal request to be issued.

28. Management. Ensure that there is a plan and schedule for continuing the project through the design proposal submission. The plan should agree with the 5-Year Strategic Plan for Automated Information time and resource estimates, or revisions should be made. Verify that responsibilities and commitments, for design changes after the review, are understood.

29. Conclusions. Use documentation from each area to summarize the requirements deficiencies. Estimate the impact of the deficiencies.

30. Recommendations. Make recommendations that address system needs, such as to proceed with no changes; proceed with changes to be submitted by a given date; delay the project for additional requirements activities; suspend the project until major issues are resolved; or terminate the project.

31 thru 33. Reserved

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PART 4. REPORTING

34. Requirements. The project leader, systems assurance analyst, and project team should coordinate their work throughout the review; however, there should be discussions, and documents should be prepared when the review plan is completed and again when the review itself is finished. The project leader and systems assurance analyst decide on the necessity to meet, based on project size, complexity and importance. Two documents are required:

a. System requirements review plan; and

b. System requirements review.

Each of the documents is prepared by the system owner and reviewed by the Office of GSA Information Systems. The owner may use contract support for planning and conducting the review, and for preparing the documents.

35. Review plan. The review plan consists of an identifying cover sheet and the plan itself.

a. Cover sheet. The cover sheet should be like the one in fig. 2-1.

b. Review plan. Because review plans vary in applicability and level of detail, a single format is not required. The plan will present, in narrative and chart form, the following information:

(1) Tasks. A list of activities needed to conduct the review.

(2) Purpose. The reason for each set of tasks.

(3) Milestones. The deliverable result of each set of tasks.

(4) Methods. The procedures for performing tasks, such as using questionnaires, interviews, and documentation reviews.

(5) Responsibility, contacts, and participation. The individual and organization that will perform each task, and additional contacts or participation required.

(6) Beginning and ending dates. A schedule for the tasks.

(7) Materials. A list of items needed from/for the system to perform the tasks (not review resources).

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(8) Resources. A list of personnel and other resources needed for the review, and the cost of doing it.

c. Distribution. The system owner prepares the distribution list. A copy must be sent to:

Systems Assurance Branch (KGSS)
18th and F Streets, NW
Washington, DC 20405

36. System requirements review. The review consists of a cover sheet for identification and the review itself.

a. Cover sheet. The cover sheet should be like that in fig. 2-2.

b. Review format. No one format is required for the review because each system has different requirements and levels of detail as well as different methodologies. However, the review should include the activity, results, and an evaluation of each review area, including justification for any areas omitted. Areas to be addressed in the report, as described in part 3 of this chapter, are:

(1) Performance objectives;

(2) Existing methods and procedures;

(3) Inputs/outputs;

(4) Processes;

(5) Data;

(6) Failure contingencies;

(7) Security;

(8) Constraints;

(9) Documentation;

(10) Management;

(11) Conclusions; and

(12) Recommendations.

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c. Distribution. The system owner prepares the distribution list. A copy must be sent to:

Systems Assurance Branch (KGSS)
18th and F Streets, NW
Washington, DC 20405

37. Reserved.

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SYSTEM REQUIREMENTS REVIEW

REVIEW PLAN

SYSTEM NAME: (title)

SYSTEM OWNER: (organization)

5-YEAR STRATEGIC PLAN FOR AUTOMATED INFORMATION REFERENCE: (activity number)

REVIEW TEAM PROJECT LEADER: (name)
(building, room number)
(telephone)

SYSTEMS ASSURANCE ANALYST: (name)

PROJECT TEAM MEMBERS: (names, organizations)

SCHEDULED REVIEW DATES: (from _____ to _____)

PROJECT LEADER	DATE	SYSTEMS ASSURANCE ANALYST	DATE

RESOURCES AND SCHEDULE APPROVED: PLAN CONCURRENCE:

SYSTEM OWNER	DATE	SYSTEMS ASSURANCE (KGSS)	DATE

Figure 2-1. System Requirements Review Plan Cover Sheet

13 and 14

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SYSTEM REQUIREMENTS REVIEW

SYSTEM NAME: (title)

5-YEAR STRATEGIC PLAN FOR AUTOMATED INFORMATION REFERENCE: (activity number)

SYSTEM OWNER: (organization)

REVIEW TEAM PROJECT LEADER: (name)
(building, room number)
(telephone)

SYSTEMS ASSURANCE ANALYST: (name)

PROJECT TEAM MEMBERS: (names, organizations)

REVIEW DATES: (from _____ to _____)

PROJECT LEADER	DATE	SYSTEMS ASSURANCE ANALYST	DATE

REVIEW ACCEPTANCE/APPROVAL:		REVIEW CONCURRENCE:	
SYSTEM OWNER	DATE	SYSTEMS ASSURANCE (KGSS)	DATE

Figure 2-2. System Requirements Review Cover Sheet

15 and 16

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CHAPTER 3. DESIGN PROPOSAL REVIEW

PART 1. GENERAL

Paragraph Titles	Paragraph Numbers
Purpose	1
Objectives	2
Scheduling	3
Applicability	4
Review team	5
Responsibilities	6
Corrective action	7
Reserved	8 thru 10

PART 2. PLANNING THE REVIEW

Initiation	11
System identification	12
Scope	13
Tasks	14
Methods	15
Review plan	16
Reserved	17 and 18

PART 3. CONDUCTING THE REVIEW

Concept evaluation	19
Alternate concepts	20
System architecture	21
Facility design	22
Cost analysis	23
Risk analysis	24
Project plan	25
Implementation and conversion plans	26
Contract administration	27
Documentation	28
Management	29
Conclusions	30
Recommendations	31
Reserved	32 and 33

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PART 4. REPORTING

Paragraph Titles	Paragraph Numbers
Requirements	34
Review plan	35
Design proposal review	36
Reserved	37

Figure 3-1. Design proposal review plan cover sheet

Figure 3-2. Design proposal review cover sheet

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CHAPTER 3. DESIGN PROPOSAL REVIEW

PART 1. GENERAL

1. Purpose. This review ensures that the ADP design is feasible, efficient, and will satisfy the functional requirements.

2. Objectives. The review verifies that the following have been done:

a. Design alternatives evaluated;

b. Design proposal recommended;

c. Project plan developed;

d. Risks analyzed;

e. Cost analyzed;

f. Implementation and conversion plans developed; and

g. Contract administration tasks and responsibilities defined.

3. Scheduling. Complete the review before beginning acquisition or development. A development contract can be issued or in-house activity begun only after the design proposal is approved.

4. Applicability. All GSA ADP system design proposals are subject to review. GSA systems are identified in the GSA 5-Year Strategic Plan for Automated Information. In meeting the quality assurance requirements, the amount of effort expended in investigating and documenting a system should reflect the size, complexity and importance of the system. ADP system management procedures and the quality assurance review apply to both in-house and contracted work. Should there be an exception or modification, the system owner must request a waiver from the Office of GSA Information Systems. The request must be justified in writing.

5. Review team. The review team should be made up primarily of individuals who did not participate in preparing the design proposal. The team should consist of:

a. A project leader, appointed by the organization owning the system but not involved with the system to be reviewed;

b. A systems assurance analyst from the Office of GSA Information Systems (this appointment may be redelegated case-by-case but requires written justification); and

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c. System experts, users, and contract personnel (may be used for furnishing documents, materials, explanations, consultation, and advice).

The project leader should be the first team member appointed and assembles the rest of the team. Depending upon resource needs, the project manager may conduct all the planning activities or may request additional team members.

6. Responsibilities. The system owner is responsible for the design proposal review. If the owner does not have an ADP staff, the Office of GSA Information Systems, Central Office Support Division (KGC), ensures that the review is conducted. Other organizations and/or contractors may be asked to participate. The review is initiated according to a predetermined schedule, but the Office of GSA Information Systems ensures that it is done under established ADP standards and procedures. Responsibilities are:

a. Review team.

(1) Project leader. The project leader ensures that all areas of the review are addressed; that information is correct, conclusions logical, and recommendations feasible; and that the required documentation is prepared and accepted. The duties are the same whether the review is done in-house or by contract.

(2) Systems assurance analyst. The analyst ensures that the review team is not involved in any phase of the system and reviews the processes, conclusions, and recommendations. This may be done when the review is completed, or may require monitoring or participating in the review, depending upon its complexity. The analyst may request additional processes or details.

(3) Team members. The team plans and does the review, and submits the data, conclusions, and recommendations to the project leader in the prescribed format. The review must be acceptable to the project leader and to the systems assurance analyst.

b. System owner (KGC for owners without ADP staffs).

(1) Establishes ADP system life cycle and design proposal review schedule;

(2) Initiates design proposal review;

(3) Appoints the review team project leader and review team (or awards a contract for support in lieu of the team);

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(4) Funds the review;

(5) Conducts the review;

(6) Documents and submits the review to the Office of GSA Information Systems; and

(7) Implements corrective action.

c. Office of GSA Information Systems.

(1) Develops the procedures for reviewing the design;

(2) Assigns a systems assurance analyst to the review team to ensure proper interpretation and execution of the review requirements;

(3) Furnishes, or requests that the system owner furnish further detail where data is inconclusive; and

(4) Approves the design proposal review, or prepares an exception report.

d. Heads of Services and Staff Offices (HSSO), Regional Administrators, and the Assistant Administrator for Information Resources Management.

(1) Reconcile review differences; and

(2) Resolve problems and inconsistencies relating to the ADP quality assurance program.

7. Corrective action. The system owner implements the corrective action and the Office of Information Resources Management oversees it. If corrections are needed the owner submits an action plan, within 60 days, for effecting the recommendations of the review team. Exceptions taken to the team's recommendations or to those of the systems assurance analyst must be explained. If disagreements are not resolved at this level, the Assistant Administrator for Information Resources Management resolves them.

8 thru 10. Reserved.

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PART 2. PLANNING THE REVIEW

11. Initiation. The system owner appoints a project leader for the review team when the review is scheduled. The project leader carries out reviews and documents it.

12. System identification. The system is listed in the 5-Year Strategic Plan for Automated Information. Ownership will be shown for hardware, software, data, and shared resources if there is more than one owner.

13. Scope. Identify any parts of the system not reviewed, such as regional offices, interfaces, manual processes, etc. State the planned depth of the review and limiting factors, such as cost, system life, and system importance.

14. Tasks. Using the requirements of part 3, prepare a list of tasks; include a milestone (measurable or deliverable product) for each task or set of tasks. The tasks should address each review requirement listed in part 3, or justify omitting it.

15. Methods. Decide on an approach for each task and explain the choice. Methods used may include, but are not limited to:

a. Questionnaires;

b. Interviews; and

c. Documentation reviews.

Review requirements must be decided on so that these documents can be included in the methods statement: the questionnaire and distribution list; the interview questions and the list of persons to be interviewed; and the list of documents to be reviewed. Provisions for revising and following through on additional needs must be included.

16. Review plan. Develop a plan for conducting the review. The plan will include:

a. Tasks. What must be done.

b. Milestones. Measurable results for each task.

c. Purpose. Reason for each task.

d. Methods. How each task is to be accomplished.

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e. Responsibility, contacts, and participation. Who (individual and organization) will do what.

f. Beginning and ending dates. Projected start and completion dates.

g. Materials. Studies, reports, proposals, and other system materials needed for each task.

h. Resources. Personnel, budget, and other resources.

17 and 18. Reserved.

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PART 3. CONDUCTING THE REVIEW

The paragraphs in this section represent tasks that will be included in the review plan. Each task must be documented, with a summary of the findings that support the conclusions and recommendations.

19. Concept evaluation. Verify that the recommended and alternate design proposals have been evaluated for cost, life cycle, flexibility, maintenance, operations, training, organizational impact, logistics, sensitivity, complexity and any other criteria believed important to selecting a system. If the proposal includes experimental or prototype systems, ensure that the reasons for experimenting or developing a prototype are given, and expected benefits.

20. Alternate concepts. Review all the potential concepts to ensure proper application of the evaluation criteria. Verify that the advantages and disadvantages of each concept are summarized and show adequate justification for each concept eliminated. Look for alternatives that may not have been considered and request an evaluation of them.

21. System architecture. Review the system architecture. Ensure equipment type is expressed in functional terms, including operating capabilities such as volume, capacity, frequency, timing, speed, retention, access, interfaces, display, performance tolerances, maintenance response, backup, and other technical specifications used in the evaluation. System architecture includes hardware, software, data base, data communications, and manual processes.

22. Facility design. Ensure that facility needs for the proposed system are addressed. These include space, environmental control, power source, and security.

23. Cost analysis. Costs should be presented by life cycle phase and category (hardware, personnel, facility, etc.). Verify that tangible costs and benefits are given and that intangible ones are enumerated and explained.

24. Risk analysis. Verify that a risk analysis has been completed and accepted.

25. Project plan. Review the project plan to ensure that it includes the milestones for developing and implementing the system. Include the tasks required to reach the milestones, those responsible for doing the tasks, the resources for them, and a schedule. Review contingency plans also.

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26. Implementation and conversion plans. Ensure that implementation and conversion strategies consider timing, responsibilities, affected organizations, parallel operation requirements, method of notification, and implementation.

27. Contract administration. If a contract is used, verify that a contracting officer's technical representative is assigned, and that the contract execution responsibilities and authority are defined for approvals and assignments, deliverable item review and acceptance, cost verification, and evaluation of change requirements or extension requests.

28. Documentation. Verify that the following documents are accurate and complete per IRM P 2140.1:

a. Risk analysis. With the concurrence of the Office of Oversight;

b. Project plan. For developing and implementing the system; and

c. Design proposal. Includes all other items addressed in this review.

29. Management. Ensure that the design proposal agrees with the 5-Year ADP Strategic Plan time and resource estimates, or make the proper revisions. Verify that the responsibilities and commitments to act after the review are understood.

30. Conclusions. Use documents from each area in summarizing design deficiencies. State the probable effects of deficiencies.

31. Recommendations. Make recommendations to improve the design proposal. These may be to: proceed with no changes; proceed with changes to be submitted by a given date; delay the project for additional activities; suspend the project until major issues are resolved; or terminate the project.

32 and 33. Reserved.

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PART 4. REPORTING

34. Requirements. The project leader, systems assurance analyst, and project team should coordinate their work throughout the review; however, there should be discussions and documents should be prepared when the review plan is completed and again when the review itself is finished. The project leader and systems assurance analyst decide on the necessity to meet, based on project size, complexity, and importance. Two documents are required:

a. Design proposal review plan; and

b. Design proposal review.

Each of the documents is prepared by the system owner and reviewed by the Office of GSA Information Systems. The owner may use contract support for planning and conducting the review, and for preparing the documents.

35. Review plan. The review plan consists of an identifying cover sheet and the plan itself.

a. Cover sheet. The cover sheet should be like that in fig. 3-1.

b. Review plan. Because review plans vary in applicability and level of detail, a single format is not required. The plan will present, in narrative and chart form, the following information:

(1) Tasks. A list of all activities needed to conduct the review.

(2) Purpose. The reason for each set of tasks.

(3) Milestones. The deliverable results of each set of tasks.

(4) Methods. The procedures for performing tasks, such as using questionnaires, interviews, and documentation reviews.

(5) Responsibility, contacts, and participation. The individual and organization that will perform each task, and additional contacts or participation required.

(6) Beginning and ending dates. A schedule for the tasks.

(7) Materials. A list of items needed from/for the system to perform the tasks (not review resources).

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(8) Resources. A list of personnel and other resources needed for the review, and the cost of doing it.

c. Distribution. The system owner prepares the distribution list. A copy must be sent to:

Systems Assurance Branch (KGSS)
18th and F Streets, NW
Washington, DC 20405

36. Design proposal review. The review consists of a cover sheet for identification and the review itself.

a. Cover sheet. The cover sheet should be like that in fig. 3-2.

b. Review format. No one format is required for the review because each system has different requirements and levels of detail as well as different methodologies. However, the review should include the activity, results, and an evaluation of each review area, as well as justification for any areas omitted. Areas to be addressed in the report, as described in part 3 of this chapter, are:

(1) Concept evaluation;

(2) Alternative concepts;

(3) System architecture;

(4) Facility designs;

(5) Cost analysis;

(6) Risk analysis;

(7) Project plan;

(8) Implementation and conversion plans;

(9) Contract administration;

(10) Documentation;

(11) Management;

(12) Conclusions; and

(13) Recommendations.

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c. Distribution. The system owner prepares the distribution list. A copy must be sent to:

Systems Assurance Branch (KGSS)
18th and F Streets, NW
Washington, DC 20405

37. Reserved.

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DESIGN PROPOSAL REVIEW

REVIEW PLAN

SYSTEM NAME: (title)

SYSTEM OWNER: (organization)

5-YEAR STRATEGIC PLAN FOR AUTOMATED INFORMATION REFERENCE: (activity number)

REVIEW TEAM PROJECT LEADER: (name)
(building, room number)
(telephone)

SYSTEMS ASSURANCE ANALYST: (name)

PROJECT TEAM MEMBERS: (names, organizations)

SCHEDULED REVIEW DATES: (from _____ to _____)

PROJECT LEADER	DATE	SYSTEMS ASSURANCE ANALYST	DATE

RESOURCES AND SCHEDULE APPROVED: PLAN CONCURRENCE:

SYSTEM OWNER	DATE	SYSTEMS ASSURANCE (KGSS)	DATE

Figure 3-1. Design Proposal Review Plan Cover Sheet

13 and 14

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DESIGN PROPOSAL REVIEW

SYSTEM NAME: (title)

SYSTEM OWNER: (organization)

5-YEAR STRATEGIC PLAN FOR AUTOMATED INFORMATION REFERENCE: (activity number)

REVIEW TEAM PROJECT LEADER: (name)
(building, room number)
(telephone)

SYSTEMS ASSURANCE ANALYST: (name)

PROJECT TEAM MEMBERS: (names, organizations)

REVIEW DATES: (from _____ to _____)

PROJECT LEADER	DATE	SYSTEMS ASSURANCE ANALYST	DATE

REVIEW ACCEPTANCE/APPROVAL:		REVIEW CONCURRENCE:	
SYSTEM OWNER	DATE	SYSTEMS ASSURANCE (KGSS)	DATE

Figure 3-2. Design Proposal Review Cover Sheet

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CHAPTER 4. SYSTEM ACCEPTANCE REVIEW

PART 1. GENERAL

Paragraph Titles	Paragraph Numbers
Purpose	1
Objectives	2
Scheduling	3
Applicability	4
Review team	5
Responsibilities	6
Corrective action	7
Reserved	8 thru 10

PART 2. PLANNING THE REVIEW

Initiation	11
System identification	12
Scope	13
Tasks	14
Methods	15
Review plan	16
Reserved	17 and 18

PART 3. CONDUCTING THE REVIEW

Hardware, system software, and data communications	19
Facility preparation	20
System test	21
User training	22
Operation training	23
Configuration management	24
System performance monitoring	25
System documentation	26
Implementation and conversion	27
Documentation	28
Management	29
Conclusions	30
Recommendations	31
Reserved	32 and 33

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PART 4. REPORTING

Paragraph Titles	Paragraph Numbers
Requirements	34
Review plan	35
System acceptance review	36
Reserved	37

Figure 4-1. System acceptance review plan cover sheet

Figure 4-2. System acceptance review cover sheet

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CHAPTER 4. SYSTEM ACCEPTANCE REVIEW

PART 1. GENERAL

1. Purpose. The system acceptance review ensures that the required activities have been successfully completed before the system begins operating.

2. Objectives. The review ensures that the following has been done:

a. Facility prepared;

b. Hardware, software, and data communications functioning properly;

c. System tested under operational conditions;

d. Configuration management and version release procedures established;

e. System performance monitoring and reporting mechanisms established;

f. System documentation complete;

g. User and operating personnel trained and the implementation coordinated; and

h. Affected organizations and individuals notified and ready to implement the system.

3. Scheduling.

a. The review must be completed before the system begins operation. Implementation and conversion planning provide adequate time for this review.

b. Review methods must be established before the system is tested because the review may require observation or monitoring before it is accepted; therefore, the review team must be assembled before the test is conducted. When the test is completed, the other acquisition and development requirements should also be completed and the system readied for production. Identify and schedule activities that cannot be completed until the system is tested.

4. Applicability. All GSA ADP systems must have a system acceptance review. The systems are in the GSA 5-Year ADP Strategic Plan for Automated Information. In meeting the quality assurance requirements, use a level of effort and detail in investigating and documenting commensurate with the size, complexity, and importance of the system.

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The systems management procedures and quality assurance reviews apply whether the work is performed in-house or contracted out. Should there be an exception or modification, the system owner must request a waiver from the Office of GSA Information Systems. The request must be justified in writing.

5. Review team. The review team should be made up primarily of individuals who did not participate in developing or purchasing the system. The team should consist of:

a. A project leader, appointed by the organization owning the system, but not involved with the system to be reviewed;

b. A systems assurance analyst from the Office of GSA Information Systems (this appointment may be redelegated case-by-case but requires written justification); and

c. System experts, users, and contract personnel (may be used for furnishing documents, materials, explanations, and advice).

The project leader should be the first team member appointed and assembles the rest of the team. Depending upon resource needs, the project manager may conduct all the planning activities or may request additional team members.

6. Responsibilities. The system owner is responsible for the system acceptance review. If the owner does not have an ADP staff, the Office of GSA Information Systems, Central Office Support Division (KGC), ensures that the review is conducted. Other organizations and/or contractors may be asked to participate. The review is initiated by the system owner according to a predetermined schedule, but the Office of GSA Information Systems ensures that the review is conducted under established standards and procedures. Specific responsibilities are:

a. Review team.

(1) Project leader. The project leader ensures that all areas of the review are addressed; that information is correct, conclusions logical, and recommendations feasible; and that the required documentation is prepared and accepted. The duties are the same whether the review is done in-house or by contract.

(2) Systems assurance analyst. The analyst ensures that the review team is not involved in any phase of the system and reviews the processes, conclusions, and recommendations. This may be done when the review is completed, or may require monitoring or participating in the review, depending upon its complexity. The analyst may request additional processes or details.

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(3) Team members. The team plans and does the review, and submits the data, conclusions, and recommendations to the project leader in the prescribed format. The review must be acceptable to the project leader and the systems assurance analyst.

b. System owner (KGC for owners without ADP staffs).

(1) Establishes ADP system life cycle and system acceptance review schedule;

(2) Initiates system acceptance review;

(3) Appoints the review team project leader and the review team (or awards a contract for support in lieu of the team);

(4) Funds the review;

(5) Conducts the review;

(6) Documents and submits the review to the Office of GSA Information Systems; and

(7) Implements corrective action.

c. Office of GSA Information Systems.

(1) Develops the procedures for conducting the system acceptance review;

(2) Assigns a systems assurance analyst to the review team to ensure that requirements are properly interpreted and executed.

(3) Furnishes, or requests that the system owner furnish, further detail if data is inconclusive; and

(4) Approves the system acceptance review or prepares an exception report.

d. Heads of Services and Staff Offices (HSSO), Regional Administrators, and the Assistant Administrator for Information Resources Management.

(1) Reconciles review differences; and

(2) Resolves problems and inconsistencies relating to the ADP quality assurance program.

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7. Corrective action. The system owner implements the corrective action, and the Office of Information Resources Management oversees it. If corrections are needed, the owner submits an action plan, within 60 days, effecting the recommendations of the review team. Exceptions taken to the team's recommendations or to those of the systems assurance analyst must be explained. If disagreements are not resolved at that level, the Assistant Administrator for Information Resources Management resolves them.

8 thru 10. Reserved.

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PART 2. PLANNING THE REVIEW

11. Initiation. The system owner appoints a project leader when the review is scheduled. The project leader carries out the review and documents it.

12. System identification. The system is listed in the 5-Year Strategic Plan for Automated Information. Ownership will be shown for hardware, software, data and shared resources if there is more than one owner.

13. Scope. Identify any parts of the system that will not be reviewed such as regional offices, interfaces, manual processes, etc. State the planned depth of the review and limiting factors, such as cost, system life, and system importance.

14. Tasks. Using the requirements of part 3, prepare a list of tasks; include a milestone (measurable or deliverable product) for each task or set of tasks. The tasks should address each system acceptance requirement listed in part 3 or justify omitting it.

15. Methods. Decide on an approach for each task and explain the choice. Methods used may include, but are not limited to:

a. Questionnaires;

b. Interviews;

c. Documentation reviews;

d. Software packages; and

e. Observation or monitoring.

Review requirements must be decided on so that these documents can be included in the methods statements: the questionnaire and distribution list; the interview questions and the list of persons to be interviewed; the list of documents to be reviewed; and the names of software packages; where, how long, and how they will be used; and the activities that are to be observed or monitored. Include provisions for revising and following through on additional needs.

16. Review plan. Develop a plan for conducting the review. The plan will include:

a. Tasks. What must be done.

b. Milestones. Measurable results for each task.

c. Purpose. Reason for each task.

d. Methods. How each task is to be accomplished.

e. Responsibility, contacts, and participation. Who (individual and organization) will do what.

f. Beginning and ending dates. Projected start and completion dates.

g. Materials. Documentation, programs, and logs, or other system materials needed for each task.

h. Resources. Personnel, budget, and other resources.

17 and 18. Reserved.

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PART 3. CONDUCTING THE REVIEW

The paragraphs in this section represent tasks that will be included in the review plan. Each task must be documented with a summary of findings that support the conclusions and recommendations.

19. Hardware, system software, and data communications. Performance specifications for these are developed and benchmarked, and an evaluation completed before they are accepted. Use the system acceptance review to verify that the specifications and benchmarks were properly prepared and evaluated. Also, the onsite equipment, software, and data communications inventory is compared with those proposed and benchmarked. Conduct a full system test to ensure that system components function properly. If the entire project is developed by a contract, this requirement may be combined in the final acceptance test.

20. Facility preparation. This requirement applies only to systems that allow facility design flexibility. If the facility is contractor-furnished, the contractor must ensure its adequacy. The facility is prepared under the facilities design specifications, which include standards for equipment space, and layout; operator and maintenance personnel access; administrative and office space; media storage; supply storage; power requirements and distribution, primary and backup; temperature and humidity control; fire protection; security; safety; telephones; lighting; noise control; site location; structural strength; facility preparation; and maintenance costs. Inspect the facility and review facility evaluation reports.

21. System test. The system test is the last performance evaluation before production; therefore, it should involve all facets of the operation. The review team observes the test and evaluates the materials, demonstrating that a comprehensive system test plan was developed and followed; that the results indicates exhaustive testing of conditions; that the user received, reviewed, and accepted the output under a user acceptance plan; that the hardware, system software, application software, data base, and data communications provide an integrated, efficient system; and that the operating environment is suitable.

22. User training. Evaluate the type and amount of training given to personnel who are to use the system. Determine whether it is sufficient, and identify any additional needs. Ensure that the User Manual is complete, accurate, and understandable, and that responsibility is assigned for maintaining it.

23. Operation training. Evaluate the type and amount of training given to personnel who operate the system. Determine whether the training has been sufficient and identify any additional needs. Ensure that the Operation Manual is complete, accurate, and understandable,

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and that responsibility is assigned for maintaining it. Evaluate the operating capability under contingency and emergency conditions, as well as routine processing.

24. Configuration management. Identify hardware and software configuration responsibilities and verify that software change control security and version release procedures exist for making improvements, correcting deficiencies, and handling emergencies.

25. System performance monitoring. Ensure that reporting systems are available to report hardware and software status and to show failures, their causes, trends, and downtime. Also, resource use measurement capability, showing devices, ratios, and processing costs, must be verified.

26. System documentation. Verify that a Data Processing Manual (DPM) has been prepared and that it is complete, accurate, and understandable. The following are to be in the manual, or available as appendices or supporting documents: a narrative and processing hierachy chart for the applications systems; job execution description; system I/O controls; restart and recovery checkpoints; programer, analyst, and manager call lists; job stream listings; source code listings; and data dictionary.

27. Implementation and conversion. Compare the implementation and conversion plan with the tasks completed. Ensure that remaining tasks are clearly defined, such as scheduling, assigning responsibility, and coordinating. Verify that a procedure has been developed for notifying affected organizations of the implementation, that there are contingency plans for failures, and that there is a workable parallel system for conversion.

28. Documentation. Verify that the following documentation is available, accurate, and complete per IRM P 2140.1:

a. Data processing manual (DPM). Charts, diagrams, narratives, and code listings to describe the system;

b. User manual. Instructions and descriptions to show the user how the system will meet functional requirements;

c. Operation manual. Instructions for operating the hardware and software; and

d. System acceptance report. Consolidation of all of the other documents needed to substantiate the review.

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29. Management. Be sure that there is a plan for implementing and operating the system that agrees with the 5-Year Strategic Plan Automated Information time and resource estimates, or make the needed revisions. Verify that the responsibilities and commitments are understood for operating and maintaining the system.

30. Conclusions. Use the documents from each area reviewed to summarize system readiness deficiencies. Estimate the effects of the system's deficiencies.

31. Recommendations. Recommend whether to follow or change the system implementation date. The recommendation may call for unqualified acceptance, acceptance with minor deficiencies to be resolved by a certain date, delay of system implementation until a specified date, or indefinite delay in implementing it. Give reasons for the recommendations.

32 and 33. Reserved.

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PART 4. REPORTING

34. Requirements. The project leader, systems assurance analyst, and project team should coordinate their work throughout the review; however, there should be discussions, and documents should be prepared when the review plan is completed and again when the review itself is finished. The project leader and the systems assurance analyst decide on the necessity to meet, depending upon the project size, complexity, and importance. Two documents are required:

a. System acceptance review plan; and

b. System acceptance review.

Each of the documents is prepared by the system owner and reviewed by the Office of GSA Information Systems. The system owner may use contract support for planning and conducting the review, and for preparing the documents.

35. Review plan. The review plan consists of an identifying cover sheet and the plan itself.

a. Cover sheet. The cover sheet should be like the one in fig. 4-1.

b. Review plan. Because review plans vary in applicability and level of detail a single format is not required. The plan will present, in narrative and chart form, the following information:

(1) Tasks. A list of activities needed to conduct the review.

(2) Purpose. The reason for each set of tasks.

(3) Milestones. The deliverable result of each set of tasks.

(4) Methods. The procedures for performing tasks, such as using questionnaires, interviews, documents, reviews, software packages, and observation or monitoring.

(5) Responsibility, contacts, and participation. The individual and organization that will perform each task, and additional contacts or participation required.

(6) Beginning and ending dates. A schedule for the tasks.

(7) Materials. A list of items needed from/for the system to perform the tasks (not review resources).

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(8) Resources. A list of personnel and other resources needed for the review, and the cost of doing it.

c. Distribution. The system owner prepares the distribution list. A copy must be sent to:

Systems Assurance Branch (KGSS)
18th and F Streets, NW
Washington, DC 20405

36. System acceptance review. The review consists of a cover sheet for identification and the review itself.

a. Cover sheet. The cover sheet should be like that in fig 4-2.

b. Review format. No one format is required for the review because each system has different requirements and levels of detail, as well as different methodologies. However, the review should include the activity, results, and an evaluation of each review area, including justification for any areas omitted. Areas to be addressed in the report, as described in part 3 of this chapter are:

(1) Hardware, system software, and data communications;

(2) Facility preparation;

(3) System test;

(4) User training;

(5) Operation training;

(6) Configuration management;

(7) System performance monitoring;

(8) System documentation;

(9) Implementation and conversion;

(10) Conclusions; and

(11) Recommendations.

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c. Distribution. The system owner prepares the distribution list. A copy must be sent to:

Systems Assurance Branch (KGSS)
18th and F Streets, NW
Washington, DC 20405

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SYSTEM ACCEPTANCE REVIEW

REVIEW PLAN

SYSTEM NAME: (title)

SYSTEM OWNER: (organization)

5-YEAR STRATEGIC PLAN FOR AUTOMATED INFORMATION REFERENCE: (activity number)

REVIEW TEAM PROJECT LEADER: (name)
(building, room number)
(telephone)

SYSTEMS ASSURANCE ANALYST: (name)

PROJECT TEAM MEMBERS: (names, organizations)

SCHEDULED REVIEW DATES: (from _____ to _____)

PROJECT LEADER	DATE	SYSTEMS ASSURANCE ANALYST	DATE

RESOURCES AND SCHEDULE APPROVED: PLAN CONCURRENCE:

SYSTEM OWNER	DATE	SYSTEMS ASSURANCE (KGSS)	DATE

Figure 4-1. System Acceptance Review Plan Cover Sheet

15 and 16

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SYSTEM ACCEPTANCE REVIEW

SYSTEM NAME: (title)

SYSTEM OWNER: (organization)

5-YEAR STRATEGIC PLAN FOR AUTOMATED INFORMATION REFERENCE: (activity number)

REVIEW TEAM PROJECT LEADER: (name)
(building, room number)
(telephone)

SYSTEMS ASSURANCE ANALYST: (name)

PROJECT TEAM MEMBERS: (names, organizations)

REVIEW DATES: (from _____ to _____)

PROJECT LEADER	DATE	SYSTEMS ASSURANCE ANALYST	DATE

REVIEW ACCEPTANCE/APPROVAL: REVIEW CONCURRENCE:

SYSTEM OWNER	DATE	SYSTEMS ASSURANCE (KGSS)	DATE

Figure 4-2. System Acceptance Review Cover Sheet

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CHAPTER 5. POSTIMPLEMENTATION REVIEWS

PART 1. GENERAL

Paragraph Titles	Paragraph Numbers
Purpose	1
Objectives	2
Review frequency	3
Applicability	4
Review team	5
Responsibilities	6
Corrective action	7
Reserved	8 thru 10

PART 2. PLANNING THE REVIEW

Initiation	11
System identification	12
Scope	13
Tasks	14
Methods	15
Review plan	16
Reserved	17 and 18

PART 3. CONDUCTING THE REVIEW

Mission	19
System description	20
Functional requirements	21
Design specifications	22
Change control	23
Operation	24
Security and risk analysis	25
Inputs	26
Outputs	27
Processing	28
Documentation	29
Management	30
Conclusion	31
Recommendations	32
Reserved	33 and 34

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PART 4. REPORTING

Paragraph Titles	Paragraph Numbers
Requirements	35
Review plan	36
Postimplementation review	37
Reserved	38

Figure 5-1. Postimplementation review plan cover sheet

Figure 5-2. Postimplementation review cover sheet

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CHAPTER 5. POSTIMPLEMENTATION REVIEWS

PART 1. GENERAL

1. Purpose. Postimplementation reviews assess the effectiveness of the ADP system in fulfilling its intended purpose, and evaluate its continued relevancy.

2. Objectives. Postimplementation reviews provide facts, conclusions, and recommendations toward:

a. Verifying that the system was developed as designed and operates properly;

b. Validating costs and benefits;

c. Evaluating present and future needs against projected or changed requirements;

d. Comparing present performance with that available with new technology or techniques;

e. Seeing that resources are efficiently used;

f. Ensuring security;

g. Ensuring that operation, applications maintenance, and other procedures are current and being followed; and

h. Ensuring that documentation is accurate and complete.

3. Review frequency.

a. Conduct a postimplementation review 12 to 18 months after installing the system to ensure that it functions as designed. Subsequent reviews will be at 50 percent and 80 percent of the system's life, but at least every 5 years. Develop the postimplementation review schedule before installing the system.

b. Owners must establish a system life and prepare a postimplementation review schedule for existing systems that lack them.

c. In addition to the established schedule, the Office of GSA Information Systems may require reviews as they are necessary.

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4. Applicability. All GSA ADP systems are required to have postimplementation reviews. The systems are listed in the GSA 5-Year ADP Strategic Plan. In meeting the quality assurance requirements, the effort used and the amount of detail investigating and documenting should be commensurate with the size, complexity, and importance of the system. The ADP management procedures and quality assurance reviews apply whether the work is done in-house or by contract. Should there be an exception or modification, the owner must request a waiver from the Office of GSA Information Systems. The request must be justified in writing.

5. Review team. The review team should be made up primarily of individuals who did not participate in designing, developing, or operating the system. The team should consist of:

a. A project leader, appointed by the organization owning the system, but not involved with the system to be reviewed;

b. A systems assurance analyst from the Office of GSA Information Systems (this appointment may be redelegated case-by-case but requires written justification);

c. A representative of the unit responsible for operating the system if the unit is outside the owning organization; and

d. System experts, users, and contract personnel (may be used for furnishing documents, materials, explanations, consultation, and advice).

The project leader should be the first team member appointed and assembles the rest of the team. Depending upon resource needs, the project manager may conduct all the planning activities or may request additional team members.

6. Responsibilities. The system owner is responsible for the post-implementation reviews. If the owner does not have an ADP staff, the Office of GSA Information Systems, Central Office Support Division (KGC), ensures that the reviews are conducted. Other organizations and/or contractors may be asked to participate. The reviews are initiated according to a predetermined schedule or as required by the Office of GSA Information Systems. The Office of GSA Information Systems ensures that they are conducted under established ADP procedures and standards. Responsibilities are:

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a. Review team.

(1) Project leader. The project leader ensures that all areas of the review are addressed; that information is correct, conclusions logical, and recommendations feasible; and that the required documentation is prepared and accepted. The duties are the same whether the review is done in-house or by contract.

(2) Systems assurance analyst. The analyst ensures that the review team is not involved in any phase of the system, and reviews the processes, conclusions and recommendations. This may be done when the review is completed, or may require monitoring or participating during the review, depending upon its complexity. The analyst may request additional processes or details.

(3) Team members. The team plans and does the review, and submits the data, conclusions, and recommendations to the project leader in the prescribed format. The review must be acceptable to the project leader and the system assurance analyst.

b. System owner (KGC for owners without ADP staffs).

(1) Establishes ADP system life cycle and postimplementation review schedules;

(2) Submits to the Office of GSA Information Systems the postimplementation review schedule for all systems owned;

(3) Initiates the postimplementation reviews;

(4) Appoints the review team project leader and the review team (or awards a contract for support in lieu of the team);

(5) Funds the review;

(6) Conducts the review;

(7) Documents and submits the review to the Office of GSA Information Systems; and

(8) Implements corrective action.

c. Office of GSA Information Systems.

(1) Develops the procedures for conducting the post-implementation review;

(2) Assigns a systems assurance analyst to the review team to ensure that review requirements are properly interpreted and executed;

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(3) Furnishes, or requests that the system owner furnish, further detail if data is inconclusive; and

(4) Approves the postimplementation review or prepares an exception report.

d. Heads of Services and Staff Offices (HSSO), Regional Administrators, and the Assistant Administrator for Information Resources Management.

(1) Reconciles review differences; and

(2) Resolves problems and inconsistencies relating to the ADP quality assurance program.

7. Corrective action. The system owner implements the corrective action, and the Office of Information Resources Management oversees it. If corrections are needed, the owner must submit an action plan within 60 days, for effecting the recommendations of the review team. Exceptions taken to the team's recommendations or to those of the systems assurance analyst must be explained. If disagreements are not resolved at this level, the Assistant Administrator for Information Resources Management resolves them.

8 thru 10. Reserved.

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PART 2. PLANNING THE REVIEW

11. Initiation. The system owner appoints a project leader when the review is scheduled or is requested by the Office of GSA Information Systems. The project leader carries out the review and documents it.

12. System identification. The system is listed in the 5-Year ADP Strategic Plan. Ownership will be shown for hardware, software, data, and shared resources if there is more than one owner.

13. Scope. Identify any parts of the system not reviewed such as regional offices, interfaces, and manual processes, etc. State the planned depth of the review and limiting factors, such as cost, system life, and system importance.

14. Tasks. Using the requirements of part 3, prepare a list of tasks; include a milestone (measurable or deliverable product) for each task or set of tasks. The tasks should address each review requirement listed in part 3 or justify omitting it.

15. Methods. Decide on an approach for each task and explain the choice. Methods used may include, but are not limited to:

a. Questionnaires;

b. Interviews;

c. Documentation reviews; and

d. Software packages.

Review requirements must be decided on so that these documents can be included in the methods statements: the questionnaire and distribution list; the interview questions and the list of persons to be interviewed; the list of documents to be reviewed; the names of software packages; and where, how long, and how they will be used. Provisions for revising and following through on additional needs should also be included.

16. Review plan. Develop a plan for conducting the review. The plan should include:

a. Tasks. What must be done.

b. Milestones. Measurable results for each task.

c. Purpose. Reason for each task.

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d. Methods. How each task is to be accomplished.

e. Responsibility, contacts, and participation. Who (individual and organization) will do what.

f. Beginning and ending dates. Projected start and completion dates.

g. Materials. Documentation, programs, and logs, or other system materials needed for each task.

h. Resources. Personnel, budget, and other resources.

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PART 3. CONDUCTING THE REVIEW

The paragraphs in this section represent tasks that will be included in the review plan. Each task must be documented with a summary of findings that support the conclusions and recommendations.

19. Mission. Compare the mission as stated when the system was developed with the present mission and the 5-Year ADP Strategic Plan. Identify any organizational or functional changes not documented, and describe the impact of these changes on the system.

20. System description. Describe what the system does, the approach taken to accomplish its tasks, and the resources used. List the hardware system and software packages, and an applications software summary. Show the personnel requirements and geographic locations that provide input, receive output, or assist in processing. Explain how the system contributes to the organization's mission.

21. Functional requirements. Compare the system's performance against the original functional requirements. Note any changes and verify that they are properly approved and documented. Describe the effects of major requirements changes on the system design, configuration, and resources.

22. Design specifications. The system design and configuration should be compared with those originally proposed and the changes documented. The existing design should be evaluated with respect to the present functional requirements, and also with respect to new technologies, processes, and changes in resource costs.

23. Change control. Verify that software change control and version release procedures exist and are followed. Evaluate the efficiency, responsiveness, and authority levels for the procedures. Determine the number and severity of the changes and their impact on the stability of the system. Describe the system's ability to respond to changing requirements.

24. Operation. Analyze the system operation, including hardware, and system and application software. Compare processing, instruction execution, communications, and manual processing times with those projected. Compare resource requirements and costs to those projected. Determine frequency, cause, and severity of system failures. Evaluate downtime impact, recovery techniques, rerun and restart efficiency, and backup ability. Review the operation manual for completeness and timeliness. Based on projected comparisons and operation problems, recommend action to system changes and redesign.

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25. Security and risk analysis. Verify that projected risk probabilities are still appropriate, and that the security requirements are documented and enforced. Analyze any security or risk incidents to see if there are system weaknesses. Document system cost changes, or changes in the value of the process, and evaluate results. Include a review of GSA security and risk analysis evaluation and documentation requirements. Ensure that contingency plans exist and are still feasible to minimize loss (cost, time, data) for threats and equipment/software malfunctions.

26. Inputs. Compare production input volumes, types, and formats to those proposed. Evaluate the impact of changes on the initial design. Include input media, geographic location, and telecommunications factors.

27. Outputs. Compare output volumes, types, formats, and distribution to those proposed. Evaluate the impact of changes on the initial design. Include output media, geographic location, and telecommunications factors. Verify that output content and distribution copies are required. Ensure that the output procedure/medium is appropriate (for example, can a one line query replace a 20-page printed report?).

28. Processing. Compare production processing procedures to those proposed. Evaluate the impact changes may have on the initial design. Review the User's Manual and compare it to actual processing techniques and sequences.

29. Documentation. Review the Data Processing Manual, User Manual, and the Operation Manual, and other system documentation, for completeness, accuracy, and timeliness. Ensure that new directives and orders affecting the system, or its documentation, have been included. List all documentation that should exist and verify its presence in the appropriate library.

30. Management. Compare the organizational structure and responsibilities as implemented with those documented. Verify system ownership and individual authorities and responsibilities for the system. Identify areas where there is a lack of, conflicting, unidentifiable, or inappropriate management/supervision. Verify that personnel are trained and working in accordance with position descriptions. Verify that ADP Management References (orders, directives, handbooks, etc.) are available and are being followed.

31. Conclusions. Use documents from each area reviewed to summarize deficiencies found in the initial system, and to document system changes, actual or proposed. Evaluate the severity of the deficiencies and the changes. Recalculate the system's benefit/cost ratio based on present needs, costs, technology, and new priorities. Include system responsiveness to mission needs and functional requirements. Evaluate flexibility and stability, ease of operation and production, and appropriateness of design.

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32. Recommendations. Make recommendations based on evaluations of the changed needs, design or functional requirement deficiencies, volume changes, operation problems, equipment inefficiency and new technology. These may include: no changes; life cycle modification; minor technology change; include system functions in another system; or share resources.

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PART 4. REPORTING

35. Requirements. The project leader, systems assurance analyst, and project team should coordinate their work throughout the review; there should be discussions, and documents should be prepared when the review plan is completed and again when the review itself is finished. The project leader and systems assurance analyst decide on the necessity to meet, depending upon project size, complexity, and importance. Two documents are required:

a. Postimplementation review plan; and

b. Postimplementation review.

Each of the documents is prepared by the system owner and reviewed by the Office of GSA Information Systems. The owner may use contract support for planning and conducting the review, and for preparing the documents.

36. Review plan. The review plan consists of an identifying cover sheet and the plan itself.

a. Cover sheet. The cover sheet should look like the one in fig. 5-1.

b. Review plan. Because review plans vary in applicability and level of detail, a single format is not required. The plan will present, in narrative and chart form the following information:

(1) Tasks. A list of all activities or set of activities to complete the review.

(2) Purpose. The reason for each set of tasks.

(3) Milestones. The deliverable result of each set of tasks.

(4) Methods. The procedures for performing tasks, such as using questionnaires, interviews, documentation reviews, and software packages.

(5) Responsibility, contacts, and participation. The individual and organization that will perform each task, and additional contacts and participation required.

(6) Beginning and ending dates. A schedule for the tasks.

(7) Materials. A list of items needed from/for the system to perform the tasks (not review resources).

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(8) Resources. A list of personnel and other resources needed for the review, and the cost of doing it.

c. Distribution. The system owner prepares the distribution list. A copy must be sent to:

Systems Assurance Branch (KGSS)
18th and F Streets, NW
Washington, DC 20405

37. Postimplementation review. The review consists of a cover sheet for identification and the review itself.

a. Cover sheet. The cover sheet should look like the one in fig. 5-2.

b. Review format. No one format is required for the review because each system has different requirement and levels of detail as well as different methodologies. However, the review should include the activity, results, and an evaluation of each review area, including justification for any areas omitted. Areas to be addressed in the report, as described in part 3 of this chapter, are:

(1) Mission;

(2) System description;

(3) Functional requirements;

(4) Design specifications;

(5) Change control;

(6) Operations;

(7) Security and risk analysis;

(8) Inputs;

(9) Outputs;

(10) Processing;

(11) Documentation;

(12) Management;

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(13) Conclusions; and

(14) Recommendations.

c. Distribution. The system owner prepares the distribution list. A copy must be sent to:

Systems Assurance Branch (KGSS)
18th and F Streets, NW
Washington, DC 20405

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POSTIMPLEMENTATION REVIEW

REVIEW PLAN

SYSTEM NAME: (title)

SYSTEM OWNER: (organization)

5-YEAR STRATEGIC PLAN FOR AUTOMATED INFORMATION REFERENCE: (activity number)

REVIEW TEAM PROJECT LEADER: (name)
(building, room number)
(telephone)

SYSTEMS ASSURANCE ANALYST: (name)

PROJECT TEAM MEMBERS: (names, organizations)

SCHEDULED REVIEW DATES: (from _____ to _____)

PROJECT LEADER	DATE	SYSTEMS ASSURANCE ANALYST	DATE

RESOURCES AND SCHEDULE APPROVED: PLAN CONCURRENCE:

SYSTEM OWNER	DATE	SYSTEMS ASSURANCE (KGSS)	DATE

Figure 5-1. Postimplementation Review Plan Cover Sheet

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POSTIMPLEMENTATION REVIEW

SYSTEM NAME: (title)

SYSTEM OWNER: (organization)

5-YEAR STRATEGIC PLAN FOR AUTOMATED INFORMATION REFERENCE: (activity number)

REVIEW TEAM PROJECT LEADER: (name)
(building, room number)
(telephone)

SYSTEMS ASSURANCE ANALYST: (name)

PROJECT TEAM MEMBERS: (names, organizations)

REVIEW DATES: (from _____ to _____)

PROJECT LEADER	DATE	SYSTEMS ASSURANCE ANALYST	DATE

REVIEW ACCEPTANCE/APPROVAL: REVIEW CONCURRENCE:

SYSTEM OWNER	DATE	SYSTEMS ASSURANCE (KGSS)	DATE

Figure 5-2. Postimplementation Review Cover Sheet

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